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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,584	06/12/2001	Masahiro Matsuo	P/1071-1372	7710

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EXAMINER
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VIJAYAKUMAR, KALLAMBELLA M

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 10/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/879,584

Applicant(s)

MATSUO, MASAHIRO

Examiner

Kallambella Vijayakumar

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Application filed 06/12/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-13, 16-22 and 25 is/are rejected.
- 7) ☒ Claim(s) 8-9, 14-15, and 23-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/12/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: \_\_\_\_\_

**Detailed Action**

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- Acknowledgment is made of applicant's claim for foreign priority based on the Japanese Application No. 2000-175758 filed 06/12/2000. Receipt is acknowledged of a certified copies of the applications submitted under 35 U.S.C. 119(a)-(d) with the application which papers have been placed of record in the file.
- Claims 1-25 are currently pending with the application
- The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
- The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A (1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the examiner on form PTO-892 has cited the references and/or the applicant has provided IDS on PTO-1449, they have not been considered.
- The information disclosure statement (IDS) submitted on 06/12/2001 was filed with the application and accordingly, the information disclosure statement has been considered by the examiner.

***Claim Objections***

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- Claims 8-9, 14-15 and 23-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 102***

***Claim Rejections - 35 USC § 103***

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- Claims 1 and 25 are rejected under 35 U.S.C. 102(b/a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ueyama et al (US Patent # 5,916,628).

Ueyama et al teach a method of making pastes comprising an active material, a binder resin and conductive agent particles wherein the paste is filtered through a filter with the mesh opening of 5 micron to 1 mm in size and a filter apparatus for the same. The filter used in the filtration of the paste consisted of a fabric, nonwoven fabric or a net made of either plastic or metal or composite wires, wherein the metallic fibers further included stainless steel and nickel. Ueyama et al further teach the advantages and disadvantages of the presence of smaller than 5-micron and larger than 1mm mesh sizes in the filter and the benefits of filtering the paste more than once (Abstract; Col-2, Lines: 10-18; Col-3, Lines: 4-39, 64-67; Col-4, Lines: 1-14; Figure-1). The viscosity limitation in the Claim-1 would be inherent for low viscous fluids such as ink or a liquidized paste as shown by Nakao et al (Abstract, JP 10-199331, Reference from IDS). When the reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-process claim although produced by a different process,

the claim is not patentable. See *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983). See also MPEP §2113. All the limitations of the instant claims are met.

The reference is anticipatory.

In the alternative that the disclosure by Ueyama et al be insufficient to arrive at the limitations of the instant claims, it would have been obvious for a person of ordinary skill in the art to choose the nonwoven fabric filter as a filter material for the filtration of the pastes in the manufacture of pastes, by choice of design to benefit from low pressure drops and high efficiency, because Ueyama teaches all the benefits and key elements of the paste manufacturing including variation of mesh sizes for the filter, and to obviously arrive at the limitations of the instant claims by the applicants with the expectation of reasonable degree of success.

- Claims 1-7, 10-13, 16-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Ueyama et al (US Patent # 5,916,628) in view of Aoike et al (JP 2000-129311).

The disclosure by Ueyama et al on the method of making paste, the filter materials, filtration process and the filtration unit are set forth as above.

Ueyama et al differ from the applicants in that the use of a non-woven sintered sheet as a filter material in the making of a paste was not taught or suggested.

Aoike et al disclose filter elements comprising sintered sheet/s of metallic fiber non-woven fabric, for the removal of solid materials and bubbles from low viscosity liquids with improved reduction in filtering resistance. The main layer of the filter consisted of metallic fibers of 1-10 microns with more than 80% porosity and the complete filter with

additional auxiliary layer/s had a porosity of 75-90%. Aoike et al further teach the presence of a second auxiliary layer on the other face of the sintered sheet without an auxiliary layer, and preferably sintering with the main layer laminated at least one auxiliary layer. Aoike et al also teach the use of acid-proof materials such as austenitic stainless steel as the fiber materials for the filter (Abstract, Claims 1-5). The auxiliary mesh meets the limitation of 'wire gauze' in claims (2-4, 10, 17-19). The presence of porous metal aggregates in a sintered bed of stainless steel nonwoven fabric per the instant claims 7, 13 and 22 would be obvious over the sintering of folded/compacted metal fibers. The nonwoven filter to comprise a multitude of folded linear metal fibers per instant claims (5, 11 and 20) would be an obvious manipulation of the materials and variation of the configuration in the making of the filter beds. Further the presence of greater porosity at the open face of the filter than at the interface with the mesh per instant claims (4, 10, and 19) would be obvious in the filter-bed configuration of Aoki et al because of the low porosity at the interface of the main layer and the auxiliary layer. Also, the capturing of large aggregates by a filter per the limitation in claim would be an obvious functionality of a filter.

Ueyama et al teach the method of making a paste by filtering the paste through a nonwoven fabric of steel/metal or plastic or composite fibers, the filter being positioned suitably inside a filtering apparatus. In the analogous art of filtration of low viscous fluids such as inks, Aoike et al teach the design and fabrication of filters containing sintered sheets of nonwoven fabric of metals, their benefits of low pressure drop and corrosion resistance characteristics, and their applications to the filtering of low viscosity fluids. It

would have been obvious for a person of ordinary skill in the art to choose the metal sintered nonwoven fabric filters of Aoike et al in the filtration system of Ueyama et al for the making of a paste, further make necessary modifications to the process and/or apparatus by choice of design to benefit from low pressure-drop, increased filtration efficiency and corrosion resistance per the teachings of Aoike et al, because both the disclosures are in the analogous art of filtering low viscosity fluids, and to obviously arrive at the limitations of the instant claims by the applicants with reasonable expectation of success.

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***Allowable Subject Matter***

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- The following is a statement of reasons for the indication of allowable subject matter:

Claims 8-9, 14-15 and 23-24 would be allowable over prior art of record *upon overcoming the objections*, because the prior art does not teach or fairly suggestive of a second non-woven sintered metal filter bed for the filtration of the paste in the manufacture of the paste, their configurations in the filter apparatus and a filter apparatus meeting the limitations of the instant claims by the applicants.




*Conclusion*

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- Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 703-305-4931. The examiner can normally be reached on M-Th, 07.30 - 17.00 hrs, Alt. Fri: 07.30-16.00 hrs.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 703-308-4708. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.
- Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Kmv  
September 30, 2003.

  
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